# CLAIMS

1. A system for printing durable ink-jet ink images, comprising:

a) a first printhead containing a fixer composition including a charged fixer component, said first printhead configured for ink-jet printing the fixer composition on a substrate;

b) a second printhead containing an ink-jet ink, said second printhead configured for ink-jet printing the ink-jet ink composition over the fixer composition, said ink-jet ink including a colorant carrying an opposite charge with respect to the charged fixer component; and

c) a third printhead containing a polymer overcoat composition, said third printhead configured for ink-jet printing the polymer overcoat composition over ink-jet ink composition, wherein the polymer of the polymer overcoat composition also carries an opposite charge with respect to the charged fixer component.

2. A system as in claim 1, wherein the charged fixer component is a cationic fixer composition, the colorant is an anionic colorant, and the polymer overcoat composition is an anionic polymer overcoat composition.

3. A system as in claim 1, wherein the charged fixer component is an anionic fixer composition, the colorant is a cationic colorant, and the polymer overcoat composition is a cationic polymer overcoat composition.

4. A system as in claim 1, wherein the fixer composition includes a first liquid vehicle and a charged polymer.

5. A system as in claim 4, wherein the charged polymer is a cationic polymer selected from the group consisting of poly(vinyl pyridine) salts, polyalkylaminoethyl acrylates, polyalkylaminoethyl methacrylates, poly(vinyl imidazole), polyethyleneimines, polybiguanides, and polyguanides, and combinations thereof.

6. A system as in claim 1, wherein the fixer composition includes a first liquid vehicle and a multivalent salt.

7. A system as in claim 1, wherein the fixer composition includes a first liquid vehicle and an organic acid.

8. A system as in claim 1, wherein the ink-jet ink includes a second liquid vehicle and a dye.

9. A system as in claim 1, wherein the ink-jet ink includes a second liquid vehicle and a pigment.

10. A system as in claim 1, wherein the polymer overcoat composition includes a third liquid vehicle and polymeric particulates.

11. A system as in claim 10, wherein the polymer overcoat composition includes a latex dispersion.

12. A system as in claim 11, wherein the polymeric particulates have an average particle size from about 20 nm to 500 nm.

13. A system as in claim 12, wherein the polymeric particulates are anionic polymeric particulates, and have an average particle size from about 100 nm to 300 nm.

14. A system as in claim 11, wherein the polymeric particulates comprise a plurality of randomly polymerized monomers, and wherein the weight average molecular weight of the polymeric particulates is from about 5,000 Mw to 2,000,000 Mw.

15. A method for printing durable ink-jet ink images, comprising steps of:

a) applying a cationic fixer composition to a media substrate;

b) jetting an ink-jet ink composition onto the fixer composition that has been applied to the media substrate, said ink-jet ink including an anionic colorant; and

c) jetting an anionic polymer overcoat composition onto the ink-jet ink composition that has been jetted onto the fixer composition.

16. A method as in claim 15, wherein the applying step is by a jetting process.

17. A method as in claim 15, wherein the cationic fixer composition includes a first liquid vehicle and a cationic polymer.

18. A method as in claim 17, wherein the cationic polymer is selected from the group consisting of poly(vinyl pyridine) salts, polyalkylaminoethyl acrylates, polyalkylaminoethyl methacrylates, poly(vinyl imidazole), polyethyleneimines, polybiguanides, and polyguanides, and combinations thereof.

19. A method as in claim 15, wherein the cationic fixer composition includes a first liquid vehicle and a multivalent salt.

20. A method as in claim 15, wherein the cationic fixer composition includes a first liquid vehicle and an organic acid.

21. A method as in claim 15, wherein the ink-jet ink includes a second liquid vehicle and a dye.

22. A method as in claim 15, wherein the ink-jet ink includes a second liquid vehicle and a pigment.

23. A method as in claim 15, wherein the anionic polymer overcoat composition includes a third liquid vehicle and anionic polymeric particulates.

24. A method as in claim 23, wherein the anionic polymer overcoat composition includes a latex dispersion.

25. A method as in claim 24, wherein the anionic polymeric particulates have an average particle size from about 100 nm to 300 nm.

26. A method as in claim 24, wherein the anionic polymeric particulates comprise a plurality of randomly polymerized monomers, and wherein the anionic polymeric particulates have a weight average molecular weight from about 5,000 Mw to 2,000,000 Mw.

27. A method for printing durable ink-jet ink images, comprising steps of:

a) applying an anionic fixer composition to a media substrate;

b) jetting an ink-jet ink composition onto the fixer composition that has been applied to the media substrate, said ink-jet ink including a cationic colorant; and

c) jetting a cationic polymer overcoat composition onto ink-jet ink composition that has been jetted onto the fixer composition.

28. A method as in claim 27, wherein the applying step is by a jetting process.

29. A durable printed image, comprising:

a) a media substrate;

b) a cationic fixer composition jetted on the media substrate as a first printed layer;

c) an ink-jet ink composition jetted on the fixer composition as a second printed layer, said ink-jet ink including an anionic colorant; and

d) an anionic polymer overcoat composition jetted on the ink-jet ink composition as a third printed layer.

30. A durable printed image as in claim 29, wherein the cationic fixer composition includes a first liquid vehicle and a cationic polymer.

31. A durable printed image as in claim 29, wherein the cationic fixer composition includes a first liquid vehicle and a multivalent salt.

32. A durable printed image as in claim 29, wherein the cationic fixer composition includes a first liquid vehicle and an organic acid.

33. A durable printed image as in claim 29, wherein the ink-jet ink includes a second liquid vehicle and a dye.

34. A durable printed image as in claim 29, wherein the ink-jet ink includes a second liquid vehicle and a pigment.

35. A durable printed image as in claim 29, wherein the anionic polymer overcoat composition includes a third liquid vehicle and anionic polymeric particulates.

36. A durable printed image as in claim 33, wherein the anionic polymer overcoat composition includes a latex dispersion.

37. A durable printed image as in claim 29, wherein the first layer, the second layer, and the third layer are printed in succession such that each of the layers are still wet when the layers are initially formed, and wherein incomplete mixing between layers occurs.

38. A durable printed image, comprising:

a) a media substrate;

b) an anionic fixer composition jetted on the media substrate as a first printed layer;

c) an ink-jet ink composition jetted on the fixer composition as a second printed layer, said ink-jet ink including a cationic colorant; and

d) a cationic polymer overcoat composition jetted on the ink-jet ink composition as a third printed layer.

39. A durable printed image as in claim 38, wherein the first layer, the second layer, and the third layer are printed in succession such that each of the layers are still wet when the layers are initially formed, and wherein incomplete mixing between layers occurs.